

measure, male neonatal circumcision fails all tests.²⁶

G Hill, G C Denniston

Doctors Opposing Circumcision, Suite 42, 2442 NW Market Street, Seattle, WA 98107, USA

Correspondence to: Mr George Hill, Doctors Opposing Circumcision, Suite 42, 2442 NW Market Street, Seattle, WA 98107, USA; iconbuster@earthlink.net

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Coexistent cranial tuberculomas and tuberculosis of the cervix in a postmenopausal woman

Postmenopausal genital tuberculosis, especially tuberculosis of cervix, is rare. We present a case of a postmenopausal woman presenting with multiple cranial lesions and evidence of a silent granulomatous pathology in the cervix.

Case report

A 52 year old woman was admitted with complaints of increasing headaches and generalised weakness for the past 3 months. There were no other neurological symptoms and she denied any history of fever, cough, diarrhoea, bone pains, vaginal discharge, bleeding, dyspareunia, abdominal discomfort, or weight loss. She was postmenopausal for 2 years with a normal menstrual history previously. There was no history of extramarital sexual contacts or any venereal disease in the patient or her spouse. Examination of cardiovascular, chest, abdomen, and nervous system was unremarkable. Breast examination was normal. Gynaecological examination revealed an abnormal cervix with a small growth and irregularity on its anterior lip with no other abnormal finding. A biopsy from the involved site was taken. Contrast enhanced magnetic resonance imaging (MRI) of the brain revealed multiple ring enhancing lesions in cerebral hemispheres and cerebellum (fig 1). Cerebrospinal fluid (CSF) examination revealed absence of pleocytosis, and normal sugar and protein indices. No organism was identified on staining or culture. Serology for brucellosis, toxoplasmosis, and cysticercosis was negative in both CSF and serum. A Mantoux test was performed but was negative. Ultrasound of the abdomen revealed calcification in the region of the cervix. Chest x ray, computed tomography (CT) of the abdomen, pelvis and chest, colonoscopy, and barium meal follow through study were normal. ELISA for HIV was non-reactive. The cervix biopsy revealed hyperplastic squamous epithelium, epithelioid cell granulomas with central necrosis, and Langhan's type of giant cells (fig 2). Staining for acid fast bacilli and fungus was negative. Culture of the tissue did not grow any organism. The patient was started on four drug antitubercular therapy (ATT) with oral steroids. Repeat examination of the cervix was normal after 3 months and repeat cranial MRI done at

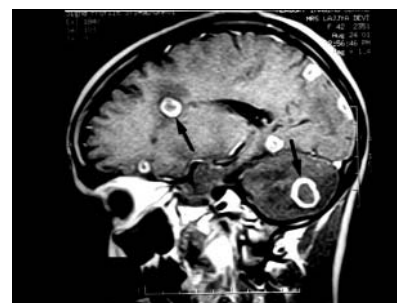


Figure 1 Cranial MRI, post-contrast sagittal section showing ring enhancing lesions (arrows) in the cerebral hemispheres and cerebellum.

intervals thereafter has shown resolution of lesions.

Comment

Both central nervous system (CNS) tuberculosis and genital tract tuberculosis are observed in endemically affected populations. Usually, the primary focus is elsewhere, the most common being the lung,^{1,2} and is silent by the time the disease manifests in the CNS or the genital tract. An accurate estimate of the incidence of genital tuberculosis is difficult because of infected asymptomatic carriers^{2,3} with genital tuberculosis being diagnosed more in relation to infertility.^{3,4} Postmenopausal genital tuberculosis is uncommon, possibly because of hormone dependence of infection and adequate blood supply at younger ages.^{2,4,5} Tubercular cervicitis is rare with an approximate incidence of 2.5–10% of all genital tuberculosis.^{3,4} Primary involvement of the cervix is still rarer, and is thought to be either sexually transmitted through a partner with epididymo-orchitis or through his infected sputum used as a lubricant.³ Tuberculomas are circumscribed focal granulomatous masses of tubercular origin, which may be single or multiple, vary in size, perilesional oedema or meningeal reaction, produce variable clinical features, and are uncommon at extremes of age.^{1,6} CSF examination and polymerase chain reaction may be normal in pure parenchymal forms of CNS tuberculosis.¹ Tubercular bacilli may be scant in hypertrophied cervix and lead to a negative acid fast bacilli stain and culture.⁵

In the present case, we were considering both an infective as well as a mitotic pathology. Since women are known to

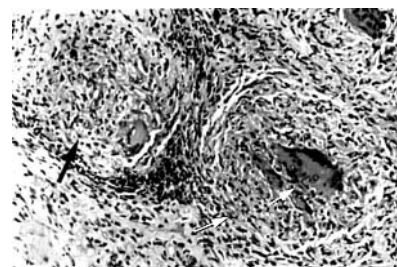


Figure 2 Histopathology of the cervix biopsy specimen showing multiple epithelioid cell granulomas (large arrow) with giant cells (small arrow).

harbour asymptomatic genital tuberculosis, a thorough clinical examination can be helpful in the presence of cranial lesions with a wide differential diagnosis.

Contributors

RB, SP, PS, DS, SG were following this patient clinically; RS provided the pathology details and the image; the manuscript was written by RB and read, edited, and finalised by all authors.

R Bhatia

Department of Neurology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

S Prabhakar

Department of Neurology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

D Shedde

Department of Obstetrics and Gynaecology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

S Gopalan

Department of Obstetrics and Gynaecology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

P Sahota

Department of Neurology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

R Shukla

Department of Pathology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

Correspondence to: Dr Rohit Bhatia, Department of Neurology, Room 707, Cardiothoracic and Neurosciences Centre, AU India Institute of Medical Sciences, New Delhi-110029, India; rohitbhatia71@yahoo.com

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Seroprevalence of reproductive tract infections in women in northern India—a relatively low prevalence area

Recent years have witnessed a growing concern about the reproductive tract infections (RTI), especially those that are sexually transmitted. The serious threat of AIDS has further drawn attention to the importance of RTI/sexually transmitted diseases (STD),¹ especially in developing countries like India where RTI diagnosis and treatment facilities are extremely limited. Women with RTI are asymptomatic, which if undetected or untreated can lead to complications in the index woman. It is, therefore, worthwhile screening of all women of reproductive age for various RTI so that appropriate interventions can be planned and initiated.

We analysed a total of 2526 women attending the antenatal outpatient department of obstetrics and gynaecology of Nehru Hospital attached to Post Graduate Institute of Medical Education and Research, Chandigarh, for screening of RTI during a 3 year period. This project was approved by the institute's ethics committee. The women were divided into six groups based on clinical histories and various signs and symptoms: group I, pregnant women (n = 600); group II, contraceptive advice seekers (n = 378); group III, contraceptive users (n = 525); group IV, women with infertility (n = 464); group V, women with leucorrhoea (n = 288); group VI, women with a diagnosis of pelvic inflammatory disease (n = 271). Endocervical swabs were collected from all patients and were sent to the microbiology laboratory for Gram stain and culture of *Neisseria gonorrhoeae* (New York city medium). ELISA was also carried out for antigen detection of *N gonorrhoeae* (Abbott laboratories) and *Chlamydia trachomatis* (Chlamydia CELISA, Cellabs Pvt, Ltd, Brookvale, Australia). Venous blood was collected from all women, sera were separated and stored at –20°C till further use. Sera were subjected to the standard Venereal Disease Research Laboratory (VDRL) test and Treponema pallidum haemagglutination (TPHA) test (Serodia-TPHA, Fujirebio Inc, Tokyo, Japan) for syphilis, enzyme linked immunosorbent assay (ELISA) for HbsAg (Auszyme Monoclonal, Abbott Laboratories, USA), and HIV (HIV-1/HIV-2 third generation plus EIA, Abbott Laboratories, USA). Western blot was done if ELISA for HIV was positive.

The mean age of the women in the study group was 30.6 years and the parity ranged from 1 to 6. Overall, seroprevalence of RTI in various groups was 1.82% (n = 46/2526).

Each of syphilis and hepatitis B infection were found in 17 women (0.67%), followed by *C trachomatis* in 11 (0.43%) and HIV seropositivity in one (0.02%) (table 1). Though figures of RTI were quite low, all the infections were more common in the pregnant group compared to the other groups. However, surprisingly, *N gonorrhoeae* was not found in any of the women.

Our study reveals that the prevalence of RTI, especially those that are sexually transmitted, is low. Similarly low prevalence of RTI has been reported from Thailand² and Bangladesh.³ Moreover, a very low prevalence of HIV has earlier been reported from Chandigarh.⁴ This is in contrast with studies from the developing world, where prevalence rates ranging from 30–40% have been reported.^{5–7} Even the low risk populations have a prevalence ranging between 15–20%.⁸ The low prevalence in this region is attributed to the better personal hygiene, environmental conditions, healthy sexual behaviour and good socioeconomic status of the patients residing in this area. However, ours is a tertiary care centre and most cases had been treated before they were referred to this hospital. However, even at such a low prevalence, there are still likely to be cost effective interventions for RTI prevention and care—for example, screening of pregnant women for syphilis may be cost effective when prevalence is 1% in this population.

M Sharma, S Sethi

Post Graduate Institute of Medical Education and Research, Chandigarh, India

S Gopalan, K Gulati, S Lyall

Department of Medical Microbiology and Obstetrics and Gynaecology, Chandigarh, India

Correspondence to: Dr Sunil Sethi, Department of Medical Microbiology, Post Graduate Institute of Medical Education and Research, Chandigarh - 160012, India; sunilsethi10@hotmail.com

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Table 1 Seroprevalence of RTI in the various groups of women

Tests positive	Group I (n = 600)	Group II (n = 378)	Group III (n = 525)	Group IV (n = 464)	Group V (n = 288)	Group VI (n = 271)	Total (n = 2526)
Syphilis	6	3	0	4	1	3	17 (0.67%)
Gonorrhoea	0	0	0	0	0	0	0
<i>C trachomatis</i> infection	6	1	1	3	0	0	11 (0.43%)
Hepatitis B	9	0	4	4	0	0	17 (0.67%)
HIV	0	0	0	0	0	1	1 (0.02%)
Total	21	4	5	11	1	4	46 (1.82%)

Group I, pregnant women; group II, contraceptive advice seekers; group III, contraceptive users; group IV, women with infertility; group V, women with leucorrhoea; group VI, women with diagnosis of pelvic inflammatory disease.